CHAPTER 2: MACHINE SUMMARY

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1. Specifications

1. TR1510

- **Processing** — High-speed automatic digital scanning
  Fully automatic, thermal screening duplicating system
- **Time to First Copy** — Approx. 24 seconds (letter, or A4 original)
- **Print Speed** — 3 selectable print speeds (60, 90, 130 sheets/min.)
- **Scanning Resolution** — 300 dpi
- **Original Type** — Sheets
- **Original Size** — Max. 274 x 395mm or 10 3/4 x 15 1/2 inch
  Min. 90 x 140mm or 3 1/2 x 5 1/2 inch
- **Paper Size** — Max. 274 x 395mm or 10 3/4 x 15 1/2 inch
  Min. 90 x 140mm or 3 1/2 x 5 1/2 inch
- **Original Weight** — Max./ 107 g/m^2 or 28-lb bond
  Min./ 50 g/m^2 or 15-lb bond
- **Paper Weight** — Max./ 157 g/m^2 or 36-lb bond
  Min./ 50 g/m^2 or 15-lb bond
- **Image Area** — A4 Drum / 210 x 290mm or 8.2 x 11.4 inch
  Legal Drum / 210 x 349mm or 8.2 x 13.7 inch
- **Paper Capacity** — Feed tray - 1,000 sheets (64 g/m^2 or 16-lb bond)
  Receiving tray - 800 sheets (64 g/m^2 or 16-lb bond)
- **ADF Capacity** — 10 originals (64 g/m^2 or 16-lb bond)
- **Machine Weight** — Approx. 64 kg (141 lbs.)
- **Dimensions** [W x D x H] — In use / 1225 x 635 x 492mm
  48.2 x 25.0 x 19.4 inch
  In storage / 635 x 635 x 479mm
  25.0 x 25.0 x 18.9 inch
- **Power Source** <Requirements> — Picture Model: 220 to 240 VAC, 50/60 Hz <3.0A>
  USA Model: 120 VAC, 60 Hz <5.0A>
  Metric Models: 110 VAC, 60 Hz <5.0A> - 110-V model
  220 to 240 VAC, 50/60 Hz <3.0A> - 220-V model
- **Reduction Parameters** — 4 selectable reductions (94%, 87%, 82% and 71%)
  [94%, 77%, 75% and 66% in USA models]
- **Features** — Print speed control, Confidential mode, Two-up printing, Programmed printing, Photo enhancement, Interface capabilities, Scanning contrast adjustment
- **Print Colors** — Black, blue, red, green, brown and yellow
- **Optional Accessories** — Color drum unit, Job separator III, Key/Card counter III, and computer interface.

2. TR1530

- **Processing** — High-speed automatic digital scanning
  Fully automatic, thermal screening duplicating system
- **Time to First Copy** — Approx. 25 seconds (letter, or A4 original)
- **Print Speed** — 3 selectable print speeds (60, 90, 130 sheets/min.)
- **Scanning Resolution** — 300 dpi
- **Original Type** — Sheets
- **Original Size** — Max. 274 x 395mm or 10 3/4 x 15 1/2 inch
  Min. 90 x 140mm or 3 1/2 x 5 1/2 inch
- **Paper Size** — Max. 274 x 395mm or 10 3/4 x 15 1/2 inch
  Min. 90 x 140mm or 3 1/2 x 5 1/2 inch
- **Original Weight** — Max./ 107 g/m^2 or 28-lb bond
  Min./ 50 g/m^2 or 15-lb bond
- **Paper Weight** — Max./ 157 g/m^2 or 36-lb bond
  Min./ 50 g/m^2 or 15-lb bond
- **Image Area** — B4 Drum / 251 x 357mm or 9.8 x 14.0 inch
- **Paper Capacity** — Feed tray - 1,000 sheets (64 g/m^2 or 16-lb bond)
  Receiving tray - 800 sheets (64 g/m^2 or 16-lb bond)
- **ADF Capacity** — 10 originals (64 g/m^2 or 16-lb bond)
- **Machine Weight** — Approx. 64 kg (141 lbs.)
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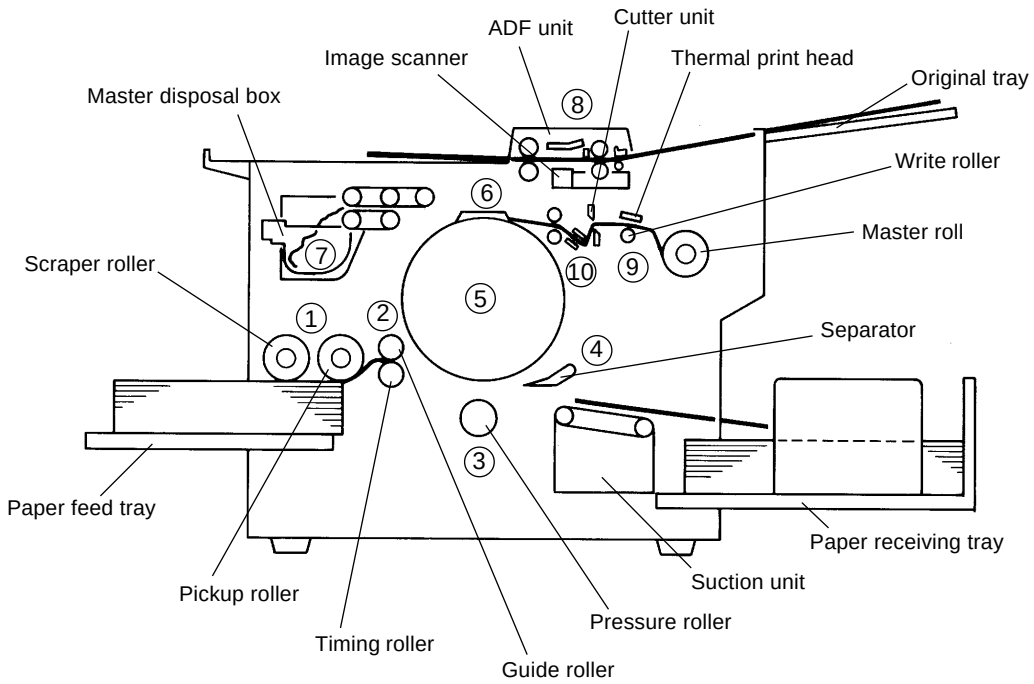
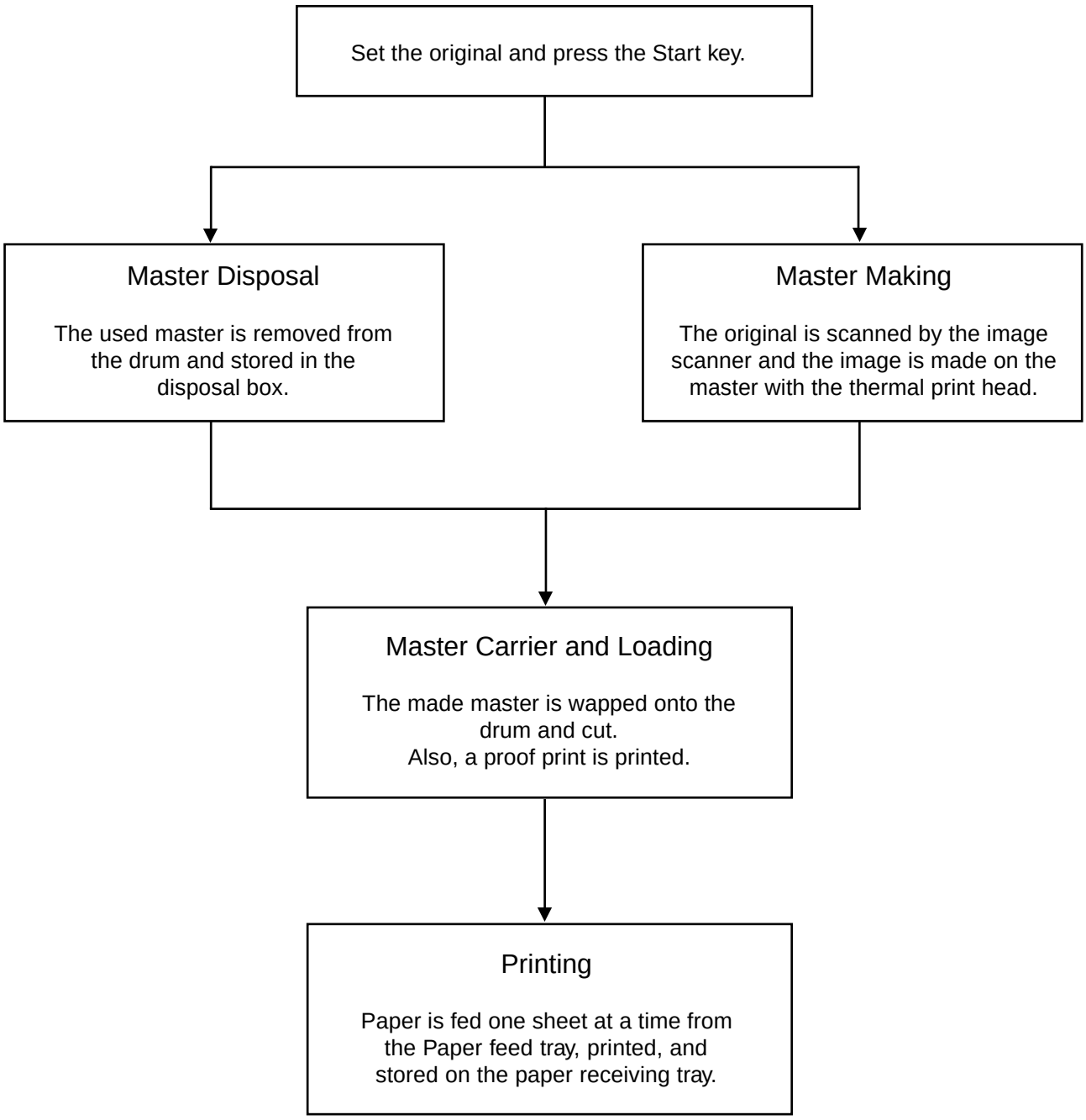
  220 to 240 VAC, 50/60 Hz <3.0A> - 220-V model
- **Reduction Parameters** — 4 selectable reductions (94%, 87%, 82% and 71%)
  [94%, 77%, 75% and 66% in USA models]
- **Features** — Print speed control, Confidential mode, Two-up printing, Programmed printing, Photo enhancement, Interface capabilities, Scanning contrast adjustment
- **Print Colors** — Black, blue, red, green, brown and yellow
- **Optional Accessories** — Color drum unit, Job separator III, Key/Card counter III, and computer interface.

2. Cross Sectional Diagram

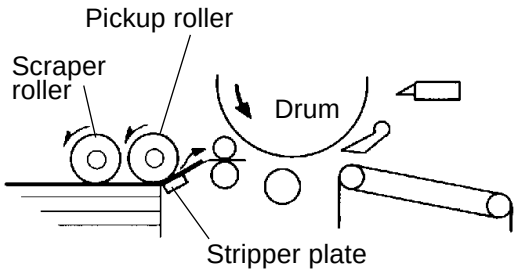


① First Paper Feed Area:	Feeds single sheets of paper to the second paper feed area via the Scraper roller, Pickup roller and Stripper plate.
② Second Paper Feed Area:	Controls the vertical print position and feeds paper to the print area via the Timing and Guide rollers.
③ Press (Printing) Area:	Uses the Pressure roller to press paper against the master on the Drum. The Drum rotates with the Pressure roller and prints an image on paper.
④ Paper Ejection Area:	Separates a printed paper from the Drum, and transports it onto the paper receiving tray.
⑤ Drum Area:	Supplies the Drum surface with ink from an Ink pack.
⑥ Master Clamp Area:	Clamps the leading edge of the master.
⑦ Master Disposal Area:	Separates used master from the Drum and disposes it into the Master disposal box.
⑧ Image Scanning Area:	Carries an original and scans it with the Image scanner and converts the image information into digital data.
⑨ Master Making Area:	Makes a master with the Thermal print head.
⑩ Master Loading Area:	Feeds the prepared master material to the Drum and cuts it to an appropriate length.

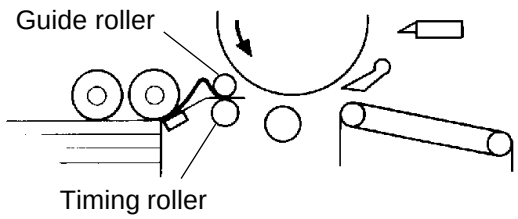
3. Machine Operations


Set the original and press the Start key.
Master Disposal
The used master is removed from the drum and stored in the disposal box.
Master Making
The original is scanned by the image scanner and the image is made on the master with the thermal print head.
Master Carrier and Loading
The made master is wapped onto the drum and cut.
Also, a proof print is printed.
Printing
Paper is fed one sheet at a time from the Paper feed tray, printed, and stored on the paper receiving tray.

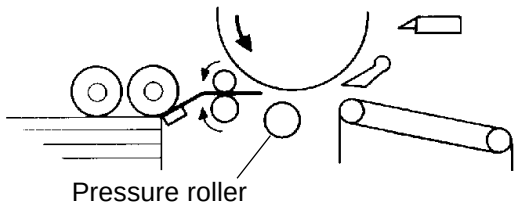
4. Paper Feed and Receiving



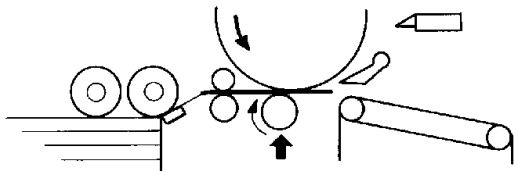
The Drum is rotated and a sheet of paper is fed from the first paper feed area to the second paper feed area by the Scraper and Pickup rollers, and Stripper plate.



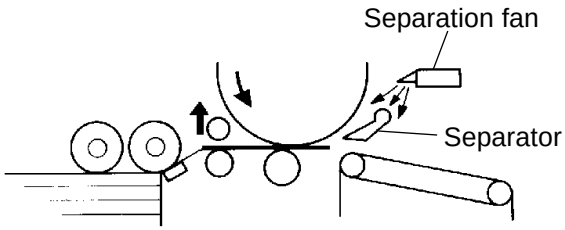
The paper feed to the second paper feed area is stopped by the Guide and Timing rollers to form a buckle. The paper then waits until the rotation of the Guide roller starts.



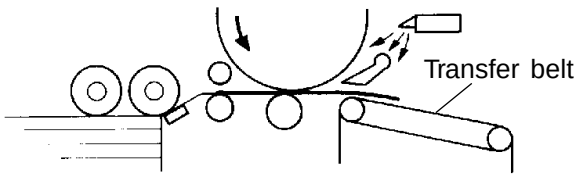
The Guide and Timing rollers in the second paper feed area are rotated and the paper is fed to the printing area.



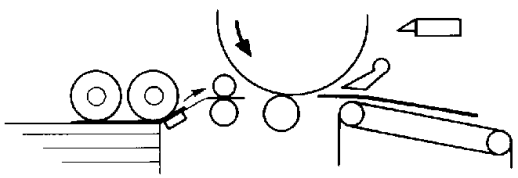
While the paper is being fed from the second paper feed area, the Pressure roller rises and printing starts.
(The Pressure roller contacts the Drum and starts rotating.)



After the Pressure roller contacts the Drum to start printing, the Separator approaches the Drum and the Separation fan starts to blow.
The Guide roller goes up to release the paper.
(The paper is then transferred by the rotation of the Drum.)

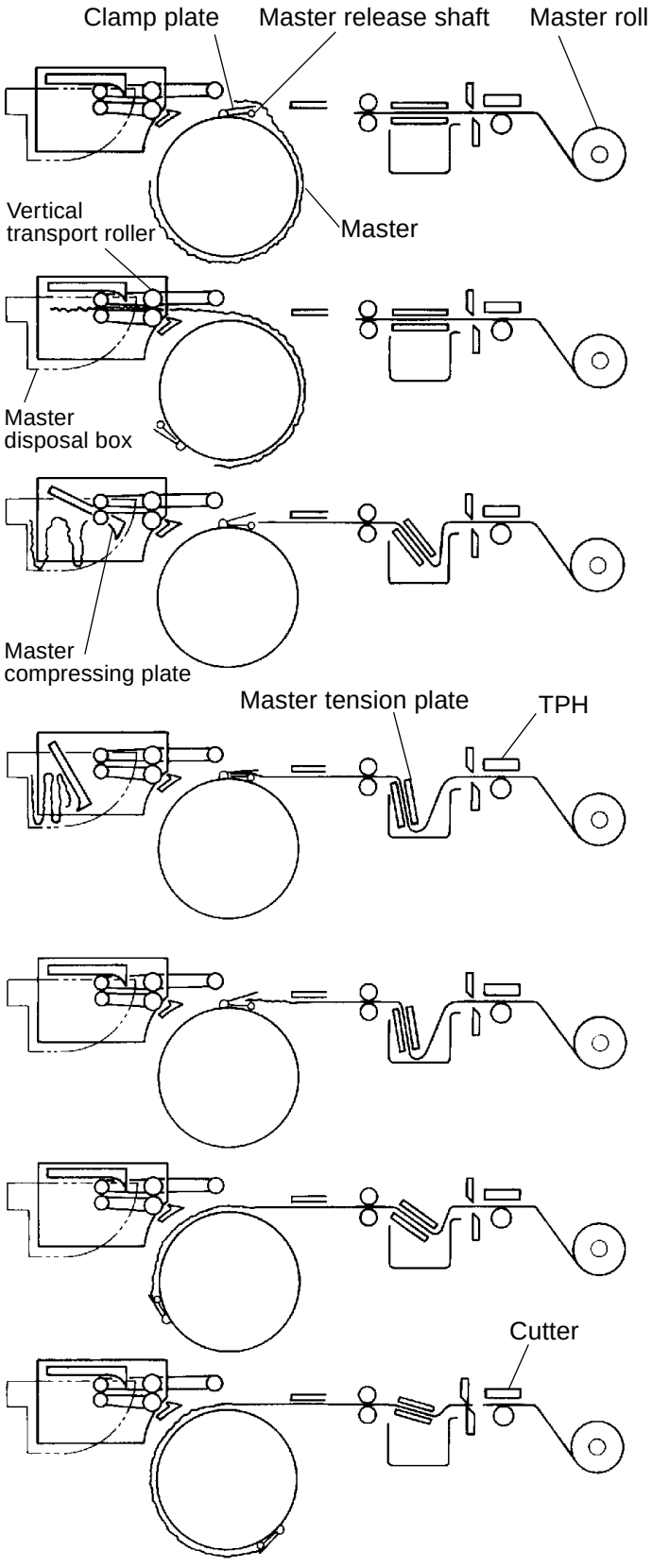


The printed paper is separated from the Drum by the Separator and with a help of the air blow from the Separation fan.
It is then transported onto the Paper receiving tray by the Transfer belts using Suction fan.



The Timing roller contacts the Guide roller to feed the next sheet of paper.

5. Master Removal and Feed



Master Removal

The Clamp plate opens and Master release shaft releases the master from the Clamp plate.

The Drum and Vertical transport rollers starts rotating and removes the master from the Drum and feed it into the Master disposal box.

The Master compressing plate starts compressing the removed master within the Master removal box.

Master Making

The Image scanner scans the image on the original and Thermal print head (TPH) makes the image on the master material. The Master tension plate drops down and applies tension on the master material.

Master Loading

The master is transferred onto the Drum and the leading edge is clamped by the Clamp plate.

The Drum rotates to wrap the master on the Drum.

The Cutter cuts the master.